

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND
INTERFERENCES

In re the Application of: **Berson et al.** Group Art Unit: **2131**
Application No.: **09/596,924** Examiner: **ARAVIND K MOORTHY**
Filed: **06/19/2000** Docket No.: **A0461-US-NP**
For: **SYSTEM, METHOD AND ARTICLE OF MANUFACTURE FOR
DETERMINING A PRICE OF CRYPTOGRAPHIC SERVICES BASED ON A
COMPUTATIONAL BURDEN**
Board of Patent Appeals and Interferences
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Reply Brief

Sir:

Appellant respectfully submits this Reply Brief in the appeal of the above identified case to the Board of Appeals and Patent Interferences in response to a non-final Office Action Faxed 10/18/2005 responding to Appellant's Appeal Brief filed 7/25/2005 (hereinafter referred to as the "*Appellant's Appeal Brief*"), therein requesting under 37 C.F.R. § 41.39(b)(2) that the Appeal be maintained. Further in accordance with 37 C.F.R. § 41.39(b)(2), this Reply Brief follows the requirements of a brief as set forth in 37 C.F.R. § 41.37(c). Applicant noticed that the *Appellant's Appeal Brief* as filed did not include an Evidence Appendix or a Related Proceedings Appendix. This Reply Brief includes those Appendices.

Appeal from Group 2131

XEROX Corporation


Daniel B. Curtis

Telephone: (650) 812-4259

Attorney for Appellants

Docket No.: A0461-US-NP

Application No.:09/569,924

TABLE OF CONTENTS

	Page
<u>I. Introduction</u>	1
<u>II. Real party in interest</u>	1
<u>III. Related appeals and interferences</u>	1
<u>IV. Status of claims</u>	2
<u>V. Status of amendments</u>	4
<u>VI. Summary of claimed subject matter</u>	5
<u>VII. Grounds of rejection to be reviewed on appeal</u>	6
<u>VIII. Argument</u>	7
<u>A. Whether claims 1, 2, 4, 5, 8, 9, 11, 12, 15, 16, 18 and 19 are properly rejected under 35 U.S.C. §102(e) as anticipated by Sibert (6,832,316 B1).</u>	7
<u>1. Claims 1, 8 and 15</u>	7
<u>2. Claims 2, 9 and 16</u>	9
<u>3. Claims 4, 11 and 18</u>	9
<u>4. Claims 5, 12 and 19</u>	10
<u>B. Whether claims 3, 10 and 17 are patentable under 35 U.S.C. §103(a) as being non-obvious over Sibert (6,832,316 B1) in view of Iwamura (6,272,535 B1).</u>	11
<u>1. The asserted combination of references fails to teach the claimed invention.</u>	12
<u>2. There is no motivation or suggestion in the prior art to make the asserted combination of references.</u>	12
<u>C. Whether claims 6, 13 and 20 are patentable under 35 U.S.C. §103(a) as being non-obvious over Sibert (6,832,316 B1) in view of Billstrom (5,729,537)</u>	14

Docket No.: A0461-US-NP

Application No.:09/569,924

<u>D.</u>	<u>Whether claims 7, 14 and 21 are patentable under 35 U.S.C. §103(a) as being non-obvious over Sibert (6,832,316 B1) in view of Jakobsson (6,049,613 B1).</u>	15
<u>IX.</u>	<u>Conclusion</u>	16
<u>X.</u>	<u>CLAIMS APPENDIX</u>	A-1
<u>XI.</u>	<u>EVIDENCE APPENDIX</u>	B-1
<u>XII.</u>	<u>RELATED PROCEEDINGS APPENDIX</u>	C-1

Docket No.: **A0461-US-NP**

Application No.: **09/569,924**

I. Introduction

This is a Reply Brief responsive to the Office Action of 10/18/2005 in response to the *Appellant's Appeal Brief*.

II. Real party in interest

There exist no new issues or changes; Appellant therefore incorporates section II of *Appellant's Appeal Brief* herein by reference.

III. Related appeals and interferences

There exist no new issues or changes in this section; Appellant therefore incorporates section III of *Appellant's Appeal Brief* herein by reference..

Docket No.: A0461-US-NP

Application No.:09/569,924

IV. Status of claims

Claims 1-21 are pending in this application.

Pending claims 1-21 are rejected in the outstanding Office Action and are on appeal. Of the claims that are on appeal, claims 1 (a method claim), 8 (a computer program product claim) and 15 (a system claim) are independent claims. Claims 2-7 directly or indirectly depend from claim 1. Claims 9-14 depend from claim 8. Claims 16-21 directly or indirectly depend from claim 15. Claims 1- 24 are set forth in the attached Appendix.

The Office Action of 10/18/2005 has objected to claim 8 because of a misspelling. Applicant agrees to request an Examiner's amendment to correct the spelling when the application is in condition for allowance.

Applicant hereby appeals the rejection of claims 1-21. Claims 22-24 have been previously canceled.

Claim	Under Appcal Status	Rejected Status	Allowed Status	Withdrawn Status	Objected-to Status	Canceled Status
1	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
2	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
3	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
4	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
5	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
6	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
7	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
8	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
9	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
10	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
11	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
12	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled

Docket No.: A0461-US-NP

Application No.:09/569,924

Claim	Under Appeal Status	Rejected Status	Allowed Status	Withdrawn Status	Objected-to Status	Canceled Status
			Allowed	Withdrawn		
13	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
14	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
15	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
16	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
17	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
18	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
19	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
20	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
21	Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Not Canceled
22	Not Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Canceled
23	Not Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Canceled
24	Not Appealed	Rejected	Not Allowed	Not Withdrawn	Not Objected to	Canceled

Docket No.: **A0461-US-NP**

Application No.: **09/569,924**

V. Status of amendments

There exist no new issues or changes in this section; Appellant therefore incorporates section V of *Appellant's Appeal Brief* herein by reference.

Docket No.: **A0461-US-NP**

Application No.: **09/569,924**

VI. Summary of claimed subject matter

There exist no new issues or changes in this section; Appellant therefore incorporates section VI of *Appellant's Appeal Brief* herein by reference.

Docket No.: A0461-US-NP

Application No.:09/569,924

VII. Grounds of rejection to be reviewed on appeal

The following grounds of rejection are presented for review which grounds were newly introduced by the Office Action of 10/18/2005:

- Whether claims 1, 2, 4, 5, 8, 9, 11, 12, 15, 16, 18 and 19 are properly rejected under 35 U.S.C. §102(e) as anticipated by Sibert (6,832,316 B1).
- Whether claims 3, 10 and 17 are patentable under 35 U.S.C. §103(a) as being non-obvious over Sibert (6,832,316 B1) in view of Iwamura (6,272,535 B1).
- Whether claims 6, 13 and 20 are patentable under 35 U.S.C. §103(a) as being non-obvious over Sibert (6,832,316 B1) in view of Billstrom (5,729,537).
- Whether claims 7, 14 and 21 are patentable under 35 U.S.C. §103(a) as being non-obvious over Sibert (6,832,316 B1) in view of Jakobsson (6,049,613 B1).

Docket No.: A0461-US-NP

Application No.:09/569,924

VIII. Argument

- A. Whether claims 1, 2, 4, 5, 8, 9, 11, 12, 15, 16, 18 and 19 are properly rejected under 35 U.S.C. §102(e) as anticipated by Sibert (6,832,316 B1).

1. Claims 1, 8 and 15

For a prior art reference to anticipate a claim, the reference must disclose each and every element of the claim with sufficient clarity to prove its existence in the prior art. *See In re Spada*, 911 F.2d 705, 708, 15 USPQ 2d 1655, 1657 (Fed. Cir. 1990) ([T]he [prior art] reference must describe the applicant's claimed invention sufficiently to have placed a person of ordinary skill in the field of the invention in possession of it. (citations omitted)). Although this disclosure requirement presupposes the knowledge of one skilled in the art of the claimed invention, that presumed knowledge does not grant a license to read into the prior art reference teachings that are not there. *Motorola, Inc. v. Interdigital Tech. Corp.*, 43 USPQ 2d 1481, 1490 (Fed. Cir. 1997)

Sibert is directed to techniques for integrating message authentication with conventional block ciphers (Sibert, Column 5, lines 1-9). Sibert uses the term "cost" to indicate computational overhead (see: column 2, lines 39-40 (extra algorithmic cost...); column 9, lines 60-61, column 5, lines 25-36, and column 12, lines 22-24, where one skilled in the art would read the term "cost" as an algorithmic cost). This algorithmic cost is an additional overhead for performing the encryption/decryption operation.

Turning now to the invention of original claim 1 that is directed to a method for pricing a cryptographic service, comprising:

- (a) receiving a request for a cryptographic service;
- (b) identifying a computational burden required to perform the cryptographic service, including one or more of a privacy level of the cryptographic service or a speed of performing the cryptographic service; and

Docket No.: A0461-US-NP

Application No.:09/569,924

- (c) determining a price of the cryptographic service based on the at least one of computational burden, privacy level, and speed.

Step (b) includes the limitation of identifying a computation burden for the requested service. As shown in step 720 of figure 7 the computational burden and/or the selected privacy level and/or the selected speed of performance is used to determine the price of the cryptographic service as per element (c) above.

While Sibert does teach encryption and decryption, nothing in Sibert teaches a cryptographic service, nothing in Sibert teaches “identifying a computational burden required to perform the cryptographic service...” or “determining a price of the cryptographic service...”.

The office action cites Sibert column 5 lines 25-37 as teaching “receiving a request for a cryptographic service”. However, nothing in the cited text teaches a cryptographic service. The cited reference simply teaches that the overhead of encrypting is different than the overhead of decrypting and that where there are fewer encryptions than decryptions, the overall computational overhead of the system can be reduced by reducing the overhead of the decryption at the expense of adding overhead to the encryption.

The office action cites Sibert column 9, lines 50-63 as teaching “identifying a computational burden required to perform the cryptographic service, including one or more of a privacy level of the cryptographic service or a speed of performing the cryptographic service”. However, nothing in the cited text teaches a cryptographic service, identifying a computational burden required to perform the cryptographic service, a privacy level or a speed of performing the cryptographic service. The cited reference teaches that the use of an irreversible mixing function adds algorithmic cost to Sibert’s system.

The office action cites Sibert column 9, lines 50-63 as “determining a price of the cryptographic service...”. However, nothing in the cited text teaches a cryptographic service or of determining a price as that term is used in the instant application (that is, a monetary cost for

Docket No.: A0461-US-NP

Application No.:09/569,924

the use of the cryptographic service). The cited reference teaches that the use of an irreversible mixing function adds algorithmic cost to Sibert's system.

Thus, original claim1 is not anticipated by Sibert. Original claim 8 is directed to a computer program that, when executed by a computer, causes the computer to perform the method of claim 1. Thus, claim 8 is not anticipated for the same reasons as original claim1 is not anticipated.

Original claim 15 is directed to a system that contains logic to perform the method of claim 1. Thus, claim 15 is not anticipated for the same reasons as original claim1 is not anticipated.

Thus, claims 1, 8, and 15 were improperly rejected under 35 U.S.C. 102(e) and applicant appeals to have this rejection reversed.

2. Claims 2, 9 and 16

Claims 2, 9, and 16 depend from and further limit their respective independent claims and thus are not anticipated. Thus, claims 2, 9, and 16 were improperly rejected under 35 U.S.C. 102(e) and applicant appeals to have this rejection reversed. Furthermore, the cite to Sibert column 4, lines 41-67 neither teaches nor discloses anything about privacy levels.

3. Claims 4, 11 and 18

Claims 4, 11, and 18 depend from and further limit their respective independent claims and thus are not anticipated. Thus, claims 4, 11, and 18 were improperly rejected under 35 U.S.C. 102(e) and applicant appeals to have this rejection reversed. Furthermore, the cite to Sibert column 9, lines 50-63 neither teaches nor discloses anything about requesting payment. Furthermore, for a 102(e) rejection, the Examiner cannot assert that the reference "suggests". The test is whether the reference discloses "each and every element of the claim with sufficient clarity to prove its existence in the prior art".

Docket No.: A0461-US-NP

Application No.:09/569,924

4. Claims 5, 12 and 19

Claims 5, 12, and 19 depend from and further limit their respective independent claims and thus are not anticipated. Thus, claims 5, 12 and 19 were improperly rejected under 35 U.S.C. 102(e) and applicant appeals to have this rejection reversed. Furthermore, the cite to Sibert column 6, lines 5-15 neither teaches nor discloses anything about private information retrieval. Private Information Retrieval is discussed in the specification at page 22 line 4 through page 23, line 31. To summarize, Private Information Retrieval is technology that allows a user to retrieve a record of his/her choice from a database server such that nobody (not even the server) observes the identity of the record. This cite teaches that some of Sibert's technology can be implemented in hardware or software.

Thus, claims 5, 12, and 19 were improperly rejected under 35 U.S.C. 102(e) and applicant appeals to have this rejection reversed.

For these reasons, claims 1, 2, 4, 5, 8, 9, 11, 12, 15, 16, 18 and 19 were improperly rejected under 35 U.S.C. §102(e) as anticipated by Sibert and applicant respectfully requests reversal of this 35 U.S.C. §102(e) rejection.

Docket No.: A0461-US-NP

Application No.:09/569,924

B. Whether claims 3, 10 and 17 are patentable under 35 U.S.C. §103(a) as being non-obvious over Sibert (6,832,316 B1) in view of Iwamura (6,272,535 B1).

Applicant addresses the issue of non-obviousness of Claims 1, 8, and 15 with respect to Sibert to help advance the prosecution of the instant application towards allowance.

In rejecting claims under 35 U.S.C. §103(a), the Patent Office bears the initial burden of persuasion in establishing a prima facie case of obviousness. To achieve this, the Patent Office must show three criteria: a suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine teachings; a reasonable expectation of success; and that the prior art must teach or suggest all claimed limitations. See In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See also MPEP §2143.

Having discussed the invention of claims 1, 8 and 15; and having discussed the teachings of Sibert; nothing in Sibert would have enabled one skilled in the art to make and use the method of claim 1, make and use the program product of claim 8 or make and use the system of claim 15.

The problem addressed by the invention of claims 1, 8, and 15 is that of identifying a computational burden required to perform a cryptographic service and determining a price for the cryptographic service based on the computational burden, privacy level, or speed.

The problem addressed by Sibert is that of ensuring secrecy and integrity of a message with a reduced algorithmic cost (consuming time, memory or processing resources) related to integrating message authentication with conventional block ciphers (Sibert, column 2, lines 52-58).

Nothing in Sibert suggests to one skilled in the art a modification to his technology to identify the computational burden required to perform the cryptographic service. Nothing in Sibert suggests the need for identifying a computational burden required to perform a cryptographic service.

Sibert does not address the problem addressed by the claimed invention.

Docket No.: A0461-US-NP

Application No.:09/569,924

Nothing in Sibert teaches identifying a computational burden required to perform the requested cryptographic service.

Furthermore, Sibert does not teach a suggestion, nor show a motivation that would enable one skilled in the art to make to identify such a computation burden.

Thus, claims 1, 8, and 15 are non-obvious over Sibert. Claims 2, 4, 5, 9, 11, 12, 16, 18, and 19 depend on and further limit, directly or indirectly, their respective independent claims that are patentable over Sibert. For at least this reason, claims 2, 4, 5, 9, 11, 12, 16, 18, and 19 are non-obvious over Sibert.

Turning now to Iwamura and claims 1 8, and 15.

1. **The asserted combination of references fails to teach the claimed invention.**

Iwamura teaches multiple ways to deliver and charge for providing information. The fourth embodiment teaches a user who specifies the level of encryption that is to be applied to the information prior to delivery and being charged accordingly. Iwamura does not teach a cryptographic service (as that term is used in the present application) but simply provides a mechanism for providing data that has been protected by a user-selected level of encryption. Iwamura also does not teach identifying a computational burden required to perform the cryptographic service.

Thus, Iwamura and Sibert separately or combined fail to teach the claimed invention.

2. **There is no motivation or suggestion in the prior art to make the asserted combination of references.**

The reason to make the asserted combination of references must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal Inc. v. F-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v.

Docket No.: A0461-US-NP

Application No.:09/569,924

Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness.

Nothing in Sibert or Iwamura, separately or combined, motivate or suggest the combination for original claims 1, 8 and 15.

Thus, original **claims 1, 8, and 15** are patentable over Sibert (6,832,316 B1) in view of Iwamura. In addition, original dependent claims 2, 4, 5, 9, 11, 12, 16, 18 and 19 that depend from and further limit their respective independent claims are also patentable.

With regards to claims 3, 10 and 17, these claims depend on and further limit their respective parent claims that are patentable. Thus **claims 3, 10, and 17** are patentable.

Docket No.: **A0461-US-NP**

Application No.: **09/569,924**

C. Whether claims 6, 13 and 20 are patentable under 35 U.S.C. §103(a) as being non-obvious over Sibert (6,832,316 B1) in view of Billstrom (5,729,537)

The Sibert reference has been previously discussed with respect to independent claims 1, 8, and 15, and dependent claims 2, 4, 5, 9, 11, 12, 16, 18, and 19.

Billstrom teaches group authentication.

Nothing in Billstrom separately or combined with Sibert teaches a suggestion to one skilled in the art to identify a computational burden. Thus, original **claims 1, 8, and 15** are patentable over Sibert in view of Billstrom.

With regards to claims 6, 13, and 20 these claims depend on and further limit their respective parent claims that are patentable. Thus **claims 6, 13, and 20** are also patentable.

Docket No.: A0461-US-NP

Application No.:09/569,924

D. Whether claims 7, 14 and 21 are patentable under 35 U.S.C. §103(a) as being non-obvious over Sibert (6,832,316 B1) in view of Jakobsson (6,049,613 B1).

The Sibert reference has been previously discussed with respect to independent claims 1, 8, and 15, and dependent claims 2, 4, 5, 9, 11, 12, 16, 18, and 19.

Jakobsson teaches mix networks.

Nothing in Jakobsson separately or combined with Sibert teaches a suggestion to one skilled in the art to identify a computational burden. Thus, original claims 1, 8, and 15 are patentable over Sibert in view of Jakobsson.

With regards to claims 7, 14, and 21 these claims depend on and further limit their respective parent claims that are patentable. Thus claims 7, 14, and 21 are also patentable.

Docket No.: A0461-US-NP

Application No.: 09/569,924

IX. Conclusion

For at least the reasons discussed above, it is respectfully submitted that claims 1-21 contain patentable subject matter, are distinguishable over the applied references and are in condition for allowance (after the Examiner is authorized to amend the spelling error of Claim 8).

Appellant therefore respectfully requests that the Board of Patent Appeals and Interferences reconsider this application, reverse in whole the rejection of claims 1-21, and pass this application for allowance.

Respectfully submitted,



Daniel B. Curtis

Attorney for Applicant(s)

Registration No. 39,159

Telephone: 650-812-4259

Date: January 18, 2006

Attachment: Appendix of Claims
Appendix of Evidence
Appendix of Related Proceedings

Docket No.: **A0461-US-NP**

Application No.: **09/569,924**

X. CLAIMS APPENDIX

There exist no new issues or changes in this section; Appellant therefore incorporates the **CLAIMS APPENDIX** of *Appellant's Appeal Brief* herein by reference.

Docket No.: **A0461-US-NP**

Application No.: **09/569,924**

XI. EVIDENCE APPENDIX

NONE

B-1

Docket No.: **A0461-US-NP**

Application No.: **09/569,924**

XII. RELATED PROCEEDINGS APPENDIX

NONE